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There is only one outfall, Outfall 001, with several distribution points. Samples, excluding the wetland monitoring sampling, shall be taken after the last treatment unit and before entering the distribution system into the wetland area. The distribution points will be employed in any combination and rotation necessary to ensure uniform coverage and to maximize the assimilation potential and the productivity of the wetland. The discharge patterns shall be recorded and included in the Annual Wetland Monitoring Report.

Description: treated sanitary wastewater

Design Capacity: 0.8 MGD

Type of Flow Measurement which the facility is currently using: Flume or V-notch weir with continuous recorder

V. RECEIVING WATERS:

The discharge is into the Spanish Lakes Wetlands; thence into Bayou Tortue; thence into Bayou Teche.

As per LAC 33:IX.1109.J.3, "wetlands approved by the administrative authority for wastewater assimilation projects pursuant to the Water Quality Management Plan, Volume 3, Section 10, Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, are assigned the following designated uses: secondary contact recreation and fish and wildlife propagation."

The discharge from the Spanish Lakes Wetlands flows into Bayou Tortue; thence into Bayou Teche in Subsegment 060401 of the Vermilion-Teche River Basin, defined at LAC 33:IX.1123.Table 3 as *Bayou Teche from Keystone Locks and Dam to Charenton Canal*. This Subsegment is not listed on the 303(d) list of impaired waterbodies.

The designated uses and degree of support for Subsegment 060401 of the Vermilion-Teche River Basin are as indicated in the table below^{1/}:

Degree of Support of Each Use						
Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
Not Supported	Fully Supported	Not Supported	N/A	N/A	N/A	N/A

^{1/} The designated uses and degree of support for Subsegment 060401 of the Vermilion-Teche River Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2006 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 060401 of the Vermilion-Teche River Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U. S. Fish and Wildlife

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Service (FWS). This strategy was submitted with a letter dated November 17, 2008, from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

VII. HISTORIC SITES:

The discharge will be from a proposed facility. LDEQ has consulted with the State Historic Preservation Officer (SHPO) in a letter dated May 15, 2009, to determine whether construction-related activities could potentially affect sites or properties on or eligible for listing on the National Register of Historic Places. SHPO's response letter, dated June 17, 2009, stated that the facility as proposed will have no potential effects.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit modification and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mr. Todd Franklin
Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:**Louisiana Water Quality Integrated Report**

Subsegment 060401, Bayou Teche-from Keystone Locks and Dam to Charenton Canal, is not listed on LDEQ's Final 2006 303(d) list as impaired. However, Subsegment 060401 was previously listed as impaired for phosphorus, nitrogen, organic enrichment, dissolved oxygen, pathogen indicators, TSS, turbidity, siltation, and carbofuran, for which the below TMDL's have been developed.

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Bayou Teche Watershed TMDL for Dissolved Oxygen Including WLAs for Twenty-two Facilities and Addressing Nutrients

The TMDL addressed the dissolved oxygen and nutrient impairments by assigning a wasteload allocation to all 22 point source discharges located within the Subsegment. In one of the scenarios, the results indicated that limitations for these facilities would not need to be more stringent. This scenario was based on a criterion of 3 mg/l DO during the summer and a 5 mg/l DO during the winter. The second scenario, which was based on a 5 mg/l DO during the entire year, indicated that more stringent limitations would be necessary for two facilities. The Spanish Lakes Wetland Assimilation Project was not considered in the development of this TMDL. However, the Spanish Lakes Wetlands receives the effluent and will utilize the nutrients within the wetland, before any wastewater is released into Subsegment 060401. Therefore, this project is not expected to cause or contribute to issues related to dissolved oxygen and nutrients within Subsegment 060401. Monitoring will be required within the wetland area to verify that the assimilation project is appropriately utilizing the effluent from the wastewater treatment facility.

Total Maximum Daily Load (TMDL) for TSS, Turbidity, and Siltation for the Bayou Teche Watershed

As per the TMDL,

Point sources do not represent a significant source of TSS as defined in this TMDL. Point sources discharge primarily organic TSS, which does not contribute to habitat impairment resulting from sedimentation. Because the point sources are minor contributors and discharges of organic suspended solids from point sources are already addressed by LDEQ through their permitting of point sources to maintain water quality standards for DO, the wasteload allocations for point source contributions were set to zero. This TMDL only addresses the landform contribution of TSS/sediment and does not address the insignificant point source contributions.

TSS limitations have been placed into the permit according to the current state regulations, guidance, and strategies. Also, solids from the wastewater will be retained within the wetland area, prior to discharge into Subsegment 060401.

Bayou Teche TMDL for Fecal Coliform

As per the TMDL,

The Louisiana Water Quality Regulations require permitted point source discharges of treated sanitary wastewater to maintain a fecal coliform count of 200 cfu/100 ml in their effluent, i.e., they must meet the standard at end-of-pipe. Therefore, there will be no change in the permit requirements based upon a wasteload allocation resulting from this TMDL.

The above-mentioned fecal coliform limitations have been placed into the permit.

Total Maximum Daily Load (TMDL) for the Pesticide Carbofuran in the Mermentau River and Vermilion-Teche River Basins

According to the TMDL, there is only one known point source discharger within the Vermilion-Teche River Basin; however, it does not discharge any process wastewater where the carbofuran is formulated and packaged. All other dischargers, including this new source into the Spanish Lake

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Wetland, do not handle, generate, or process carbofuran; therefore, no wasteload allocation was given to these facilities. Therefore, no permit limitation is necessary to address carbofuran.

The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon the wetland monitoring data obtained or upon additional TMDL's and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

Final Effluent Limits:**Outfall 001**

In accordance with LAC 33:IX.1109.J.6 and the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standard, Water Quality Management Plan, Volume 3, the Department may allow the discharge of the equivalent of secondarily treated effluent into wetlands for the purposes of nourishing and enhancing those wetlands. According to LAC 33:IX.5911.A & B, the effluent quality attainable by facilities eligible for treatment equivalent to secondary treatment are 45 mg/l BOD₅ monthly average / 65 mg/l BOD₅ weekly average and 45 mg/l TSS monthly average / 65 mg/l TSS weekly average. However, Alternative State Requirement (ASR) provisions are contained in 40 CFR §133.105(d). The ASR provision allows States the flexibility to set permit limits above the maximum levels of 45 mg/l monthly average and 65 mg/l weekly average for BOD₅ and TSS from lagoons meeting certain requirements. EPA published the approved ASRs in 49 FR 37005 on September 20, 1984. An alternate TSS Limit of 90 mg/l monthly average was approved for the State of Louisiana. According to LAC 33:IX.711.D, with respect to BOD₅, treatment equivalent to secondary treatment for oxidation ponds is defined as 30 mg/l monthly average / 45 mg/l weekly average. Therefore, these limitations will be included in the permit.

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
BOD ₅	200	30 mg/l	45 mg/l	Limits are based on approved Treatment Equivalent to Secondary Treatment as allowed in the <i>Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Volume 3</i> for discharges of sanitary wastewater into an approved wetland.
TSS	600	90 mg/l	135 mg/l	

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Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
Magnesium, Total	Report	Report (mg/l)	Report (mg/l)	In conjunction with the Wetland System Monitoring Requirements of the permit, "Report" for the listed metals has been proposed for this permit based on Best Professional Judgement (BPJ).
Lead, Total	Report	Report (mg/l)	Report (mg/l)	
Cadmium, Total	Report	Report (mg/l)	Report (mg/l)	
Chromium, Total	Report	Report (mg/l)	Report (mg/l)	
Copper, Total	Report	Report (mg/l)	Report (mg/l)	
Zinc, Total	Report	Report (mg/l)	Report (mg/l)	
Iron, Total	Report	Report (mg/l)	Report (mg/l)	
Nickel, Total	Report	Report (mg/l)	Report (mg/l)	
Silver, Total	Report	Report (mg/l)	Report (mg/l)	
Selenium, Total	Report	Report (mg/l)	Report (mg/l)	Values obtained will be used to calculate long term wetland loading rates.
Total Nitrogen	Report	Report (mg/l)	Report (mg/l)	
Total Phosphorus	Report	Report (mg/l)	Report (mg/l)	

Other Effluent Limitations:**1) Fecal Coliform**

The discharge from this facility is into a water body (wetland), which has a designated use of Secondary Contact Recreation. However, Primary Contact Recreation limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment as an added measure for public safety, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) pH

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C, the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

4) Wetland System Monitoring

The five (5) year LPDES permit contains technology-based effluent limitations for BOD₅, TSS, and pH reflecting the best controls available. Additional water quality-based effluent limitations and/or conditions are included in the LPDES permit. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

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The state has established a narrative water quality criterion, which states that:

“No substances shall be present in the waters of the state or the sediments underlying said waters in quantities that alone or in combination will be toxic to human, plant, or animal life or significantly increase health risks due to exposure to the substances or consumption of contaminated fish or other aquatic life.” (*Louisiana Surface Water Quality Standards*, LAC Title 33, Part IX, Chapter 11, Section 1113.B.5.)

However, the State of Louisiana has set the following specific criteria (LAC 33:IX.1113.B.12) for protection of the receiving Natural Wetlands (Spanish Lakes Wetlands):

- **Wetland biological integrity will be guided by above-ground wetland vegetative productivity with consideration given to floral diversity. Due to effluent addition, the discharge area of a wetland shall have no more than a 20 percent reduction in the rate of total above-ground wetland productivity over a five-year period as compared to a reference area.**

EPA document *Biological Criteria: National Program Guidance for Surface Waters*, discusses the Clean Water Act and states that “the general authority for biological criteria comes from Section 101(a) of the Act which establishes as the objective of the Act, the restoration and maintenance of the chemical, physical, and biological integrity of the Nation’s waters, including natural wetlands. To meet this objective, water quality criteria must include criteria to protect biological integrity. Section 101(a)(2) includes the interim water quality goal for the protection and propagation of fish, shellfish, and wildlife.” Biological integrity is functionally defined in this EPA manual as “the condition of the aquatic community inhabiting the unimpaired waterbodies of a specified habitat as measured by community structure and function.” The importance and function of wetlands include, but are not limited to the following: erosion and flood control, saltwater intrusion control, water quality enhancement, habitat for threatened and endangered species, wildlife habitat, nutrient material cycling, recreation and aesthetics.

Natural wetland loss is a problem in Louisiana. This problem is caused, in part, by insufficient sedimentation and relative sea level rise each year. The introduction of nutrient rich wastewater to natural wetlands is beneficial in that it stimulates productivity in the wetland. This productivity promotes vertical accretion through increased organic matter deposition and the formation of soil through increased root growth. This vertical accretion helps maintain the wetlands. Additionally, the total suspended solids, provided by the wastewater, also increase the sediment level in the wetland.

Although the introduction of wastewater into natural wetlands renders benefits to the wetland system, changes to the system will occur. Therefore, it is important to address issues, which will indicate the extent of these changes and to determine if the changes are acceptable.

While standard biomonitoring indicates affects on organisms found in free flowing streams and rivers, a biological monitoring schedule broader in scope, and more specific to the wetland ecosystem, than standard biomonitoring, will provide a more direct indication of change in functions of the wetland system as a whole.

The following parameters are proposed to be sampled and monitored for the specified wetland component at three (3) monitoring sites within the Discharge Area and one (1) monitoring site within the Reference Area. The Discharge Area is defined as the area of wetlands directly affected by effluent addition, and is inclusive of the delineated assimilation area. The Reference Area is defined as wetland area that is nearby and similar to the discharge area, but that is not affected by effluent addition.

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SPECIES CLASSIFICATION

Within the three Discharge Area sites and within the Reference Area site, three or more 10 x 100 m quadrates should be established. These plots must be oriented perpendicular to the hydrological gradient. All trees within these subplots with a diameter at breast height (dbh) greater than 3.2 cm should be tagged with an identification number.

The relative importance of each major tree species in both the Discharge and Reference Areas will be based on the density (total number), dominance (basal area), and frequency of occurrence in each of the plots using equations 1-4 (Barbour et al. 1987).

$$\text{Relative density} = (\text{individuals of a species})/(\text{total individuals of all species}) \quad (1)$$

$$\text{Relative dominance} = (\text{total basal area of a species})/(\text{total basal area of all species}) \quad (2)$$

$$\text{Relative frequency} = (\text{frequency of species})/(\text{total frequency of all species in area}) \quad (3)$$

$$\text{Importance Value} = \text{Relative density} + \text{Relative dominance} + \text{Relative Frequency} \quad (4)$$

PERCENTAGE OF WHOLE COVER and GROWTH STUDIES

Productivity of a forested wetland is defined as the sum of stem growth (perennial productivity) and leaf and fruit fall (ephemeral productivity). Above-ground net primary productivity (NPP) should be calculated as the sum of ephemeral and perennial productivity, and presented as live dry weight per square meter per year basis ($\text{g}/\text{m}^2/\text{yr}$).

Perennial productivity should be calculated using diameter at breast height (dbh) measurements of all trees with dbh greater than 3.2 cm within the subplots defined above. Measurements of dbh should be taken during two consecutive winters when trees are dormant, and biomass calculated using allometric equations (Megonigal et al. 1997; Scott et al. 1985). The following steps should be used to calculate perennial productivity:

- Estimate biomass (in kg) from dbh using allometric equations (see Table 1 below).
- Sum biomass per study site and divide by area (in kg/m^2) of the study site. This calculates the biomass per unit area (kg/m^2) for each year and study site.
- Subtract Year 1 biomass (kg/m^2) from Year 2 biomass, and multiply by 1000. This calculates the perennial productivity as $\text{g}/\text{m}^2/\text{yr}$.

Table 1. Regression equations used to convert diameter at breast height (DBH) measurements to overall perennial biomass. All equations are in the form: Biomass = f (DBH), where biomass is in kg, DBH is in cm and f is the parameterized function.

Species	Biomass f(D)	DBH Range	Reference
<i>Fraxinus spp.</i>	Biomass (kg) = $((2.669 * ((\text{DBHcm} * 0.394)^{1.16332})) * 0.454$	>10 cm	Megonigal et al. '97
<i>Taxodium distichum</i>	Biomass (kg) = $10^{(-.97 + 2.34 * \text{LOG}10(\text{DBHcm}))}$	>10 cm	Megonigal et al. '97
<i>Nyssa aquatica</i>	Biomass (kg) = $10^{(-9.19 + 2.291 * \text{LOG}10(\text{DBHcm}))}$	>10 cm	Megonigal et al. '97
<i>Acer rubrum</i>	Biomass (kg) = $((2.39959 * ((\text{DBHcm} * 0.394)^2)^{1.2003})) * 0.454$	10-28 cm	Megonigal et al. '97
<i>Quercus nigra</i>	Biomass (kg) = $((3.15067 * ((\text{DBHcm} * 0.394)^2)^{1.21955})) * 0.45$	10-28 cm	Megonigal et al. '97
	Biomass (kg) = $((5.99898 * ((\text{DBHcm} * 0.394)^2)^{1.08527})) * 0.45$	>28 cm	Megonigal et al. '97
<i>Salix spp.</i>	Biomass (kg) = $10^{(-1.5 + 2.78 * \text{LOG}10(\text{DBHcm}))}$	n.a.	Scott et al. 1985
Other Species	Biomass (kg) = $((2.54671 * ((\text{DBHcm} * 0.394)^2)^{1.20138})) * 0.45$	10-28 cm	Megonigal et al. '97
	Biomass (kg) = $((1.80526 * ((\text{DBHcm} * 0.394)^2)^{1.27313})) * 0.45$	>28 cm	Megonigal et al. '97

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Ephemeral productivity should be measured using 0.25 m² leaf litter boxes, with screened bottoms and approximately 10 cm wide sides. Six boxes should be placed randomly in each of the 10 x 100 m quadrates within the Discharge Area and Reference Area. Leaves and other materials that collect in the boxes should be gathered bimonthly, separated into leaves and woody material, dried to a constant weight, and weighed. Ephemeral productivity should be calculated by summing the dried weight of leaves from each box over one year and extrapolating to g/m²/yr.

Net Primary Production: Aboveground net primary production (NPP) will be calculated as the sum of leaf litter and wood protection, and will be given in g/m²/yr.

WATER STAGE

Water stage is a gauged measurement of the water depth, which will assist in determining stress in the wetlands from hydrologic loadings and will determine the existence of a zone of influence resulting from wastewater applications. The zone around the discharge serves to assimilate the wastewater most effectively. This zone grows larger as wastewater continues to be discharged and the assimilative capacity of the immediate area becomes saturated. The water stage at set points within each of the three (3) Discharge Area sites and the Reference Area site shall be measured monthly.

METALS, NUTRIENT I, NUTRIENT II, AND OTHER ANALYSIS

Samples of the flora, sediment, and surface water at each of the three (3) Discharge Area sites and the Reference Area site shall be collected and analyzed for the following metals and nutrients: Magnesium, Lead, Cadmium, Chromium, Copper, Zinc, Iron, Nickel, Silver, Selenium, Total Kjeldahl Nitrogen, and Total Phosphorus.

Samples of the sediment and surface water at each of the three (3) Discharge Area sites and the Reference Area site shall be collected and analyzed for the following nutrients: Ammonia-Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, and Phosphate.

Samples of the surface water at each of the three (3) Discharge Area sites and the Reference Area site shall be collected and analyzed for the following parameters: Biochemical Oxygen Demand (BOD₅), Total Suspended Solids, pH, and Dissolved Oxygen.

- **Metals and nutrient data from plant tissue samples** will identify excesses or deficiencies that could become problematic.
- **Sediment analysis for metals and nutrients** will indicate whether or not metals are bound and buried in the sediments, and nutrients assimilated.
- **Corresponding analysis of surface water** must be made to provide a comparison of water quality in the vicinity of the discharge and at increasing distance from it.

Sampling procedures to be used during the wetland monitoring phase.

Water quality analyses must be conducted according to test procedures approved under 40 CFR Part 136.

For soils/sediments, sample preservation, handling, and analysis must meet the specifications of the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, third edition (EPA Publication Number SW-846, 1986, or most recent revision) or an equivalent substitute as approved by the administrative authority.

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ACCRETION RATES

Accretion rates will provide an indication of the how the effluent is contributing sediment and organic matter into the wetland area. Feldspar markers will be laid on the wetland surface in each of the three (3) Discharge Area sites and the Reference Area site, with each plot having three 0.25 m² subplots where 1 cm thick powdered feldspar clay will be placed (Cahoon and Turner 1989). The subplots will be marked at each corner with PVC poles. Every four years, the thickness of material deposited on top of the feldspar marker at one subplot of each plot will be measured destructively by taking a 20 cm x 20 cm plug using a shovel or trowel, cleanly slicing the core into several sections to reveal the horizon, then measuring the thickness of material above the surface of the horizon at 10 different locations. The rate of vertical accretion will be calculated by dividing the mean thickness of material above the surface of the horizon by the amount of time the horizon had been in place.

Compared to data from the Use Attainability Analysis, the Reference Area site, and the annual wetland monitoring reports, the effects of the discharge on the biological integrity (as defined above) may be accurately assessed.

The permittee shall submit the results of any wetland monitoring testing performed in accordance with the LPDES Permit Number LA0124605, shown in the table below:

PARAMETER	WETLAND COMPONENT		
	FLORA	SEDIMENT	SURFACE WATER
Species Classification	P		
Percentage of Whole Cover (for each species)	P		
Growth Studies	A₁		
Water Stage			M
Metals Analysis: Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se	P₁	P₁	P
Nutrient Analysis I: TKN, TP	P_{1,2}	P_{1,2}	Q
Nutrient Analysis II: NH₃N, NO₂N, NO₃N, PO₄		P₁	Q
Others: BOD₅, TSS, pH, Dissolved Oxygen			P
Accretion Rate		P	

Water quality will be monitored by taking water samples along the path of flow of the effluent in the assimilation site and from one or more control sites.

Sampling in the **DISCHARGE AREA** must be conducted as follows:

Collection of a minimum of three samples per site in each of three sites:

- 1) Near site location: Latitude 30° 2' 24" North
Longitude 91° 50' 47" West
- 2) Mid site location: Latitude 30° 2' 55" North
Longitude 91° 50' 52" West

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3) Out site location: Latitude 30° 3' 17" North
 Longitude 91° 50' 56" West

EXCEPTION: Only one sample per site in each of the three sites for those samples collected quarterly.

Sampling for the **REFERENCE AREA** must be conducted as follows:

Collection of a minimum of three samples in the Reference Area. All three samples will be taken from a site or sites similar to the Discharge Area.

Reference Area location: Latitude 30° 3' 45" North
 Longitude 91° 51' 2" West

EXCEPTION: Only one sample per site in the reference area for those samples collected quarterly.

A: **ANNUALLY.** Sample once per year at all three (3) DISCHARGE AREA sites and the REFERENCE AREA site and included in the yearly report.

A₁ – Stem growth and litter fall

M: **MONTHLY.** Samples should be taken at all three (3) DISCHARGE AREA sites and the REFERENCE AREA site each month and included in the yearly report.

P: **PERIODICALLY.** Sampling must be made once during September through November in the fourth year of the permit period for all three (3) DISCHARGE AREA sites and the REFERENCE AREA site (Exception: See footnote P₂ regarding Nutrient I analysis, which is to be sampled in the summer).

P₁- Sample preservation, handling, and analysis must meet the specifications of the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, third edition (EPA Publication Number SW-846, 1986, or most recent revision) or an equivalent substitute as approved by the administrative authority.

P₂- Sampling to be conducted in summer to reflect peak growth.

Q: **QUARTERLY.** Sampling (one sample collected per site) must be made every three months annually for all three (3) DISCHARGE AREA sites and the REFERENCE AREA site.

If loading rates exceed 15 g/m²/yr total nitrogen or 4 g/m²/yr total phosphorus, then either the loading rates must be reduced or the assimilation area must be increased.

Example Calculation for Determining the Nutrient Loading Rates for Wetland Assimilation:

4 g TP/m²/yr = 35.6 lbs. TP/acre/yr
 15 g TN/m²/yr = 133.8 lbs. TN/acre/yr

Loading Rate for Total Phosphorus:

Discharging to 335 acres, then the yearly loading rate is:
 (35.6 lbs. TP/acre/year) x 335 acres = 11,926 lbs. TP/year

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The long term average daily loading rate is:
 $(11,926 \text{ lbs. TP/year}) / 365 \text{ days/year} = 32.7 \text{ lbs. TP/day}$

The daily maximum discharge loading rate is:
 $(32.7 \text{ lbs. TP/day}) \times 3.11 = 102 \text{ lbs. TP/day}$

The maximum 30-day discharge is:
 $(32.7 \text{ lbs. TP/day}) \times 1.31 = 43 \text{ lbs. TP/day}$

Loading Rate for Total Nitrogen:

Discharging to 335 acres, then the yearly loading rate is:
 $(133.8 \text{ lbs. TN/acre/year}) \times 335 \text{ acres} = 44,823 \text{ lbs. TN/year}$

The long term average daily loading rate is:
 $(44,823 \text{ lbs. TN/year}) / 365 \text{ days/year} = 123 \text{ lbs. TN/day}$

The daily maximum discharge loading rate is:
 $(123 \text{ lbs. TN/day}) \times 3.11 = 383 \text{ lbs. TN/day}$

The maximum 30-day discharge is:
 $(123 \text{ lbs. TN/day}) \times 1.31 = 161 \text{ lbs. TN/day}$

Suggestions for sampling during the wetland monitoring phase can be found in *The Use of Louisiana Swamp Forests for Application of Treated Municipal Wastewater: Standard Operating Procedures for Monitoring the Effects of Effluent Discharge*. John W. Day, Jr., Joel Lindsey, Jason N. Day, and Robert R. Lane, Comite Resources, Inc. Used with the permission of Dr. John W. Day, Jr., March 14, 2003.

X. PREVIOUS PERMITS:

Because the Spanish Lake Wetland Assimilation Project is a proposed facility, there are no previous permits issued for this facility.

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:**A) Inspections**

Because this is a proposed facility, there have been no inspections performed.

B) Compliance and/or Administrative Orders

No enforcement actions have been administered against this facility.

C) DMR Review

This is a proposed facility; therefore, no DMRs have been submitted for this facility.

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XII. ADDITIONAL INFORMATION:**Reopener Clause**

The Louisiana Department of Environmental Quality (LDEQ) reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDLs. The LDEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

In accordance with LAC 33:IX.2903., this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

- a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- b) Controls any pollutant not limited in the permit; or
- c) Requires reassessment due to change in 303(d) status of waterbody; or
- d) Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body.

Mass Loadings Calculations

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity of 0.8 MGD.

Effluent loadings are calculated using the following example:

$$\text{BOD}_5: 8.34 \text{ gal/lb} \times 0.8 \text{ MGD} \times 30 \text{ mg/l} = 200 \text{ lbs/day}$$

Monitoring Requirements

At present, the Monitoring Requirements, Sample Types, and Frequency of Sampling as shown in the permit are standard for facilities of flows between 0.50 MGD and 1.00 MGD.

Effluent CharacteristicsOutfalls 001

Flow
BOD₅
Total Suspended Solids

Monitoring Requirements

<u>Measurement</u>	<u>Sample</u>
<u>Frequency</u>	<u>Type</u>
Continuous	Recorder
1/week	3 Hr. Composite
1/week	3 Hr. Composite

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Fecal Coliform Bacteria	1/week	Grab
pH	1/week	Grab
Total Magnesium	1/6 months	3 Hr. Composite
Total Lead	1/6 months	3 Hr. Composite
Total Cadmium	1/6 months	3 Hr. Composite
Total Chromium	1/6 months	3 Hr. Composite
Total Copper	1/6 months	3 Hr. Composite
Total Zinc	1/6 months	3 Hr. Composite
Total Iron	1/6 months	3 Hr. Composite
Total Nickel	1/6 months	3 Hr. Composite
Total Silver	1/6 months	3 Hr. Composite
Total Selenium	1/6 months	3 Hr. Composite
Total Nitrogen	1/quarter	3 Hr. Composite
Total Phosphorus	1/quarter	3 Hr. Composite
Wetland Monitoring	see Wetland System Monitoring	

Pretreatment Requirements

Based upon consultation with LDEQ pretreatment personnel, general pretreatment language will be used due to the lack of either an approved or required pretreatment program.

Pollution Prevention Requirements

The permittee shall institute or continue programs directed towards pollution prevention. The permittee shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility. The permittee will complete an annual Environmental Audit Report each year for the life of this permit according to the schedule below. The permittee will accomplish this requirement by completing an Environmental Audit Form which has been attached to the permit. All other requirements of the Municipal Wastewater Pollution Prevention Program are contained in Part II of the permit.

The audit evaluation period is as follows:

Audit Period Begins	Audit Period Ends	Audit Report Completion Date
Effective Date of Permit	12 Months from Audit Period Beginning Date	3 Months from Audit Period Ending Date

XIII TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Statement of Basis.

XIV REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8. "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2007.

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Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 2006.

Louisiana Water Quality Management Plan / Continuous Planning Process, Vol. 3, "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2008.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2008.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2008.

Low-Flow on Streams in Louisiana, Louisiana Department of Environmental Quality, March 2000.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

Iberia Parish Wetland Assimilation Use Attainability Analysis (UAA), John W. Day, Ph.D., Robert R. Lane, Ph.D., Joel Lindsey, Jason Day of Comite Resources, Inc.

LPDES Permit Application to Discharge Wastewater, Sewerage District No. 1 of Iberia Parish, May 11, 2009.

PRETREATMENT REQUIREMENTS

PRETREATMENT EVALUATION AND RECOMMENDATION

FACILITY NAME: *Sewerage District No. 1 of Iberia Parish (Spanish Lake Wetland Assimilation Project)*

CITY: *New Iberia*

PARISH: *Iberia*

PERMIT #: *LA0124605*

PLANNED DESIGN FLOW: *0.8 MGD*

ESTIMATED OR EXPECTED TREATED WASTEWATER FLOW: *0.8 MGD*

OTHER POTWs IN SYSTEM: *City of New Iberia and Sewerage District No. 1 of Iberia Parish – Tete Bayou WWTP (LA0065251) and City of New Iberia – Hwy. 14 WWTP (LA0120201)*

INDUSTRIES IDENTIFIED VIA CORRESPONDENCE WITH IBERIA PARISH

(Note: Wastewater from these facilities will be routed to the Spanish Lake Wetland Assimilation Project WWTP upon completion of construction):

Industry Name	Type of Industry	Direct or Planned Indirect Discharger
Air Logistics, A Bristow Company	Aircraft repair center and logistics support base for satellite operating bases in the Gulf of Mexico; provides logistical support for international operations	Indirect ¹
Aviation Exteriors Louisiana, Inc.	Exterior painting of large commercial, corporate, and military aircraft	Indirect ²
Brand T/NOV (National Oilwell Varco)	Manufacture oilfield shaker screens from stainless steel wire	Indirect ¹
Carbo Ceramics Inc.	Manufactures ceramic proppant	Indirect ³

¹ The discharge to the Spanish Lake Wetland Assimilation Project WWTP will be sanitary wastewater only.

² All process water is collected and then evaporated using evaporators which run almost continuously. After the water has been removed from the process water, the resulting concentrate is removed from the boilers and added to the hazardous waste totes. The discharge to the Spanish Lake Wetland Assimilation Project WWTP will be sanitary wastewater only.

³ All process wastewater is recycled and reused in the process. The discharge to the Spanish Lake Wetland Assimilation Project WWTP will be sanitary wastewater only.

Melissa Reboul – 7/6/2009

Industry Name	Type of Industry	Direct or Planned Indirect Discharger
Iberia Parish Mosquito Abatement District	Mosquito abatement services	Indirect ⁴
InterChem, Inc. LA	Blend and drum chemicals for wholesale customers	Indirect ⁵
Pelican Aviation Corp.	Servicing and storing aircraft	Indirect ⁶
University of Louisiana – New Iberia Research Center	Primate research center	Indirect ⁷

STANDARD LANGUAGE RECOMMENDATION AND JUSTIFICATION:

Sewerage District No. 1 of Iberia Parish is building a new wastewater treatment plant which will discharge into the wetlands south of Spanish Lake in Iberia Parish. It is estimated that construction will be complete by October, 2010. On page 5 of the LPDES application dated May 6, 2009, Iberia Parish indicated that the new plant will service "largely the unincorporated areas of Iberia Parish in the vicinity of Acadiana Regional Airport. The facility will also serve the University of Louisiana at Lafayette's New Iberia Research Center (ULL Primate Center) which discharges approximately 100,000 gpd."

Due to the absence of pretreatment categorical standards for the planned indirect discharges listed above or because the planned discharge consists of sanitary wastewater only, it is recommended that LDEQ Option 1 Pretreatment Language be included in LPDES Permit LA0124605. This language is established for municipalities that do not have either an approved or required Pretreatment program. This recommendation is in accordance with 40 CFR Part 403 regulations, the General Pretreatment Regulations for Existing and New Sources of Pollution contained in LAC Title 33, Part IX, Chapter 61 and the Best Professional Judgement (BPJ) of the reviewer.

⁴ The discharge to the Spanish Lake Wetland Assimilation Project WWTP will consist of sanitary wastewater (60 gpd) and vehicle wash water (20 gallons/truck; 8 trucks cleaned but not an everyday activity).

⁵ Process wastewater and waste products are hauled offsite. The discharge to the Spanish Lake Wetland Assimilation Project WWTP will be sanitary wastewater only.

⁶ The discharge to the Spanish Lake Wetland Assimilation Project WWTP will be sanitary wastewater only.

⁷ The discharge to the Spanish Lake Wetland Assimilation Project WWTP will be process and sanitary wastewater; however, pretreatment standards have not been developed for this industry.

Melissa Reboul – 7/6/2009